

COMMONWEALTH OF PENNSYLVANIA :
 :SS:
COUNTY OF LYCOMING :

AFFIDAVIT

I, Daryl L. Ebersole, having been duly sworn under oath, do hereby depose and state as follows:

1. I am a professional engineer. A copy of my curriculum vitae is attached hereto as Exhibit A.

2. I was retained by Elion, Wayne, Grieco, Carlucci, Shipman, and Irwin, P.C., to investigate an accident that occurred on October 30, 2002, at the Quality Inn in South Williamsport, Pennsylvania where Gary Thompkins was injured.

3. My initial Engineering Report concerning this accident dated May 21, 2004, is attached hereto as Exhibit B, which is hereby incorporated herein by reference.

4. All of the facts set forth in my initial report are true and accurate, except for when I refer to Lithonia Lighting as the manufacturer of the pole in question. Additional information received has revealed that K. W. Industries, Inc., manufactured the pole and sold it to Lithonia Lighting; that Lithonia Lighting resold it, along with a lighting fixture it had manufactured to put on the pole, to TACC, Inc.; and that TACC, Inc., sold it to the Quality Inn.

5. All of the opinions expressed in my initial Engineering Report and in this Affidavit are stated with a reasonable degree of engineering certainty, and also apply to K. W. Industries as the manufacturer/seller of the pole and to Lithonia Lighting and TACC, Inc., as the wholesale and retail sellers of the product.

EXHIBIT

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6. I have reviewed the deposition transcripts of Mahendra Patel, Thomas Poletto, Dale Brion, Jon Dangle and Richard E. Daniels. I have reviewed the answers to interrogatories and the documents that were provided in response to the requests for documents.

7. Mr. Patel, the manager of the Quality Inn, testified that he purchased the light poles and fixtures from TACC, Inc. (Page 43).

8. TACC, Inc., specializes in selling a wide array of products directly to hotels and motels.

9. A copy of a TACC, Inc., catalog that was in circulation at the time that Mr. Patel purchased these poles and light fixtures is attached hereto as Exhibit C, and demonstrates that a large number of diverse products are sold by TACC, Inc., to the hotel industry.

10. A similar light pole that TACC, Inc., sold to the Quality Inn is depicted on page 17 of the catalog.

11. TACC, Inc., was not in the business of selling light poles as its primary product, or in the business of selling light poles directly to commercial contractors for installation, who would be considered sophisticated users of such a product; but rather was selling poles and numerous other products to hotel and motel managers who are not sophisticated users.

12. An illustration of Mr. Patel's ignorance of these matters is that he did not know that he needed a separate permit from a code officer for the installation of the poles. (Pages 103-104).

13. Patel also did nothing to verify whether the person he hired to install the

poles, Tom Poleto, was qualified to do this work. (Page 75).

14. Poleto was not an electrical contractor or a licensed electrician. (Pages 13, 36).

15. Poleto was a construction worker/laborer who did general construction work some of which involved carpentry, masonry, plumbing and electrical. (Pages 15-19).

16. Poleto had installed six or seven light poles on prior occasions. (Page 24).

17. It was Poleto's belief that the poles had to be installed in a depth below the frost line, which he believed was approximately three (3) feet deep. (Page 25).

18. Poleto believed he installed the poles at the Quality Inn more than three (3) feet deep to be below the frost line. (Page 28-29).

19. Mr. Poleto was mistaken in that belief because the frost line in the South Williamsport area is forty-two inches. (Dangle deposition transcript at Page 20). Mr. Poleto demonstrated that he did not understand the importance of the diameter of the pole foundation. He thought that the depth of the foundation was the only consideration necessary. (Page 28) He thought that the frost line in the area was 36 inches. (Pages 41 – 42) Mr. Dangle stated that the frost line is 42 inches. (Page 20) Mr. Poleto used the wrong depth and made incorrect assumptions.

20. Mr. Poleto did not obtain a permit from a code enforcement officer before installing the poles (Page 55).

21. The code enforcement officer, Jon Dangle, would have required the depth of the hole to be below the frost line. (Pages 11-12).

22. It is necessary to dig foundation holes below the frost line to prevent disturbance to the foundation from freezing and thawing.

23. There are other factors that also affect how deep a foundation hole should be including the height of the pole, the diameter of the foundation, and the bearing value of the soil.

24. Poles twenty-five feet high, such as this one, would require a foundation depth considerably below the frost line.

25. Safe designs of foundations require considerations that include the load bearing value of the soil and the forces that the pole will need to withstand. The forces on the pole must not result in subjecting the soil to more load than it can bear. A larger foundation in diameter and/or depth spreads the load across more soil surface area. The sizing of the foundation must either be determined following testing of the soil or the foundation must be intentionally oversized in diameter and depth. In either case the forces that the pole must withstand must not result in subjecting the soil to more load than it can bear.

26. Dale Brion reinstalled the poles after the accident. He used significantly larger foundations. He has never consulted with an engineer for a pole foundation. However, he had knowledge of pole foundations that were "pre-engineered." (Page 36) He uses "rules of thumb" in determining the dimensions of the foundations he installs. (Pages 16, and 34-35) He is not aware of the significance of soil bearing values. (Page 35)

27. Mr. Brion's "rule of thumb" foundation design techniques fall in the category of attempting to intentionally oversize the foundations. He confirms that qualified contractors and electricians know what variables to take into account. (Pages 29 – 30) However, his unfamiliarity with the significance of soil bearing values shows that he is

not qualified to design pole foundations and that his knowledge rests heavily on his experience with "pre-engineered" designs.

28. Richard E. Daniels, an engineer, inspected the sight of the incident on November 7, 2002. (Pages 15, 18) He measured the depth of the subject foundation pole at 17 inches. (Pages 67-68) He observed that the concrete foundation consisted of a circular pedestal with a diameter of 12 inches (Pages 48-49) and beneath it a mass of concrete with a diameter of approximately 14 inches (Pages 50-51)

29. A pole like this one requires a foundation 60 inches deep and 18 inches in diameter on a sight where the soil conditions have a bearing value of 3000 PSF or greater. The insufficient depth and width of the foundation is what caused the pole to fall over when Gary Thompkins placed a ladder against it and climbed up the ladder.

30. TACC, Inc., knew or should have known that unsophisticated buyers or users could be installing this pole because it was being marketed by TACC, Inc., with a diverse array of other products, to the hotel and motel chains, whose managers could contract with unsophisticated construction workers such as Poleto to install it. The only instructions that K. W. Industries, Lithonia Lighting or TACC, Inc., supplied with the pole was a diagram showing where to install the anchor bolts. A copy of that diagram is attached hereto as Exhibit D.

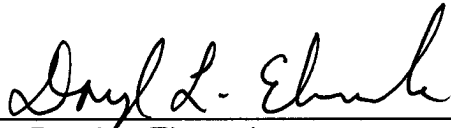
31. These instructions were clearly inadequate and made the product unsafe for its intended use. Attached hereto are foundation installation instructions from Aim Solar Corporation and X Sports, which provide illustrations of adequate pole installation instructions. As in Aim Solar's instructions, K. W. Industries, Lithonia Lighting, and TACC, Inc., should have provided instructions with this pole stating that for soils with a

bearing value of 3000 PSF or greater; the foundation diameter should be 18 inches; and the depth of the foundation should be 60 inches. X Sports' instructions also advised the user to consult a local engineer if there were concerns about site-specific conditions.

32. As I stated in my Engineering Report at Page 3: "Responsible pole manufacturers understand that the average person is not aware of how substantial the foundation needs to be. Since the pole manufacturers know all the conditions that will be present with the exception of the soil bearing values, they provide to the purchaser, a foundation design that is adequate for a given soil bearing value. When the pole manufacturer does this, the installer will recognize whether the requirements are significantly different from what was anticipated and will observe that a good design requires knowledge of the soil bearing value. This indicates to the installer that it is necessary to obtain or test the soil bearing value. In this way a responsible pole manufacturer provides the information required for installers to install safe, adequate, foundations."


33. Tom Poleto testified that he followed the instructions that came with the pole for placement of the anchor bolts, (Exhibit D attached hereto) and that he would have followed instructions for how deep and wide to make the hole, if such instructions had been provided. (Pages 64, 84).

34. If my instructions had been given and followed, the soil surrounding the pole foundation would have withstood the forces from the weight of the ladder with Mr. Thompkins on it, and this accident would not have happened.

By: 
Daryl L. Ebersole

Sworn to and subscribed before

me this 3 day of June, 2005.


Notary Public

My Commission Expires:

